

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

Paper No. 27

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GORDON R. KUENSTER, JOHN W. PACE,
STEVEN J. SHANKLE, KEVIN W. SHIMASAKI,
FREDRICK W. RIVERA, JOEL W. ROBINSON, WENDIE L. SIVERTS

Appeal No. 1997-3823
Application 08/320,782

ON BRIEF

Before STONER, Chief Administrative Patent Judge, MCCANDLISH,
Senior Administrative Patent Judge and FRANKFORT,
Administrative Patent Judge.

FRANKFORT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the Examiner's
rejection of claims 1-59 and 62. In the Examiner's Answer,

Appeal No. 1997-3823
Application No. 08/320,782

mailed November

20, 1996, Paper No. 21, the examiner withdrew rejections of claims 9, 10, 12, 13, 17-19, 21-24, 35, 36, 39-43, 45, 55 and 56 under 35 U.S.C. § 103 and indicated that such claims contain allowable subject matter. In addition, the examiner has provided new grounds of rejection to claims 9 and 44 under 35 U.S.C. § 112 and claims 46-51 under 35 U.S.C. § 103. Appellants amended claims 8, 10, 12, 17, 18, 35, 44 and 55 to overcome ambiguities and to write the claims in independent form in the Reply Brief, received on January 21, 1997, Paper No. 23. The Examiner summarized the status of the claims in the Supplemental Examiner's Answer, mailed April 23, 1997, Paper No. 24. Claims 8-10, 12, 13, 17-19, 21-24, 35, 36, 39-45, 55 and 56 are indicated as being allowable over the prior art. Therefore, the Appeal of those claims is hereby dismissed. Claims 1-7, 11, 14-16, 20, 25-34, 37, 38, 46-54, 57-59 and 62 remain rejected and are the claims before us on appeal. Claims 60 and 61 have been canceled.

Appellants' invention relates to a head mounted display system that is modular such that various components of the

Appeal No. 1997-3823
Application No. 08/320,782

system are removably mounted and/or adjustably mounted on a frame that is supported on a user's head so that the head mounted display system can accommodate different users and components of

different configurations. Representative claim 1 is set forth below.

1. A head mounted display system comprising:
a display that receives displayed information;
a reflector that receives displayed information to allow a user to view the displayed information by viewing the reflector;
a frame for supporting the display and the reflector on a user's head; and
an optical path adjusting system for allowing an optical path defined by the relative position of the reflector, the display and an eye of the user to be adjusted relative to at least two axes of the head mounted display system.

The prior art of record relied upon by the examiner as evidence of obviousness are:

Flader et al. (Flader)	4,280,758	Jul. 28,
1981		
Weyer	4,902,120	Feb. 20,

Appeal No. 1997-3823
Application No. 08/320,782

1990

Landis	4,945,573	Aug. 7,
--------	-----------	---------

1990

Kamaya et al. (Kamaya)	5,106,179	Apr. 21,
------------------------	-----------	----------

1992

Furness et al. (Furness)	5,162,828	Nov.
--------------------------	-----------	------

10, 1992

Claims 1-5, 25-34, 37 and 38 stand rejected under 35
U.S.C. § 103 as being unpatentable over Furness.

Claims 6, 7, 11, 14-16 and 20 stand rejected under 35
U.S.C. § 103 as being unpatentable over Furness in view of
Flader.

Claims 46 and 49-51 stand rejected under 35 U.S.C. § 103
as being unpatentable over Furness in view of Kamaya.

Claims 47 and 48 stand rejected under 35 U.S.C. § 103 as
being unpatentable over Furness in view of Kamaya as applied
to claims 46 and 49-51 and further in view of Weyer.

Claims 52-54 and 57-59 stand rejected under 35 U.S.C. §
103 as being unpatentable over Furness in view of Landis.

Claim 62 stands rejected under 35 U.S.C. § 103 as being

Appeal No. 1997-3823
Application No. 08/320,782

unpatentable over Furness in view of Landis and Flader.

Rather than attempt to reiterate the examiner's full commentary with regard to the above-noted rejections and the conflicting viewpoints advanced by the examiner and appellants regarding the rejections, we make reference to the final rejection (Paper No. 15, mailed March 21, 1995), the examiner's answer (Paper No. 21, mailed November 20, 1996) and supplemental answer (Paper No. 24, mailed April 23, 1997) for the reasoning in support of the rejections, and to appellants' brief (Paper No. 20, filed March 4, 1996) and Reply Brief (Paper No. 23, filed January 21, 1997) for the arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by the appellants and the

Appeal No. 1997-3823
Application No. 08/320,782

examiner.

In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a prima facie case of obviousness (see In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993); In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992)), which is established when the teachings of the prior art itself would appear to have suggested the claimed subject matter to one of ordinary skill in the art (see In re Bell, 991 F.2d 781, 783, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993)). The conclusion that the claimed subject matter is prima facie obvious must be supported by evidence, as shown by some objective teaching in the prior art or by knowledge generally available to one of ordinary skill in the art that would have led that individual to combine the relevant teachings of the references to arrive at the claimed invention.

See In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

With this as our background, we turn to the examiner's

Appeal No. 1997-3823
Application No. 08/320,782

rejection of claims 1-5 under 35 U.S.C. § 103 as being unpatentable over Furness alone.

Before turning to our evaluation of the Furness patent, we look to the language of claim 1 on appeal to derive an understanding of the scope and content of the claim. Since we do not consider the eye of the user to be part of the optical path, we are interpreting the claim language in claim 1, lines 7-9, "an optical path adjusting system for allowing an optical path defined by the relative position of the reflector, the display and an eye of the user to be adjusted" as being an optical path adjusting system for adjusting the position of the reflector and/or display so as to adjust the optical path relative to the eye of a user. This construction of the claim language is consistent with appellants' specification and drawings. The adjustment relative to "at least two axes" set forth in claim 1 is interpreted as being an adjustment relative to a horizontal and vertical axis of the head mounted display.

With the above understanding of the metes and bounds of the claimed subject matter, it is our opinion that the

disclosure of Furness fails to teach or suggest an optical path adjusting system that is capable of being adjusted relative to "at least two axes of the head mounted display system." The examiner reads the "at least two axes of the head mounted display system," in view of Furness, to be an axis for rotating and adjusting the position of a reflector (e.g., 120 in Furness Figures 18 and 19) and the adjusting by the user of the head mounted display system up and down slightly along the face of the user so that a best wearing position can be obtained. It is our opinion that while rotating the reflector adjusts the optical path relative to one axis of the head mounted display system; the adjusting of the whole head mounted display system by the user up and down on the user's nose cannot be understood to be part of an "optical path adjusting system" as set forth in claim 1 on appeal. The examiner is not at liberty to read a human being, (i.e., the user) as a part of the system set forth in appellants' claim 1. See, for example, In re Bernhart, 417 F.2d 1395, 1399, 163 USPQ 611, 615 (CCPA 1969). Therefore, we agree with appellants that Furness does not disclose a single embodiment including an optical path adjusting system for

Appeal No. 1997-3823
Application No. 08/320,782

allowing the optical path to be adjusted relative to at least two axes of the head mounted display system.

In light of the foregoing, we will not sustain the standing rejection under 35 U.S.C. § 103 of claim 1 and claims 2-5 which depend therefrom.

Next we turn to the examiner's rejection of claim 6 under 35 U.S.C. § 103 as being unpatentable over Furness as applied to claims 1-5 and further in view of Flader. Claim 6 requires that the optical path adjusting system in claim 1 include a nosepiece that is adjustably mounted relative to said frame. Furness does not disclose an adjustable nosepiece. However, Flader teaches an adjustable nosepiece (32) mounted to a frame (12) of bifocal glasses to adjust the relative position of the lower portions (28) of the lenses (26) relative to the eyes of the user. As urged by appellants in the appeal brief on pages 14-15, Flader teaches a specific purpose for the adjustable nosepiece (32) in column 1, lines 20-21. The adjustable nosepiece (32) is to allow a user to adjust the position of the lower portion (28) of the bifocal lenses (26) to allow a

Appeal No. 1997-3823
Application No. 08/320,782

user to read at or above eye level without removing his glasses or tilting his head back. The purpose of the adjustable nosepiece (32) of Flader, to allow a user to read at or above eye level, is not relevant to the display system or Furness. Accordingly we see no reasonable teaching or motivation for importing the adjustable nosepiece of Flader into the head mounted display of Furness.

Appellants further argue that the examiner is apparently employing improper hindsight analysis that uses appellants' claims as an instruction manual to piece together disparate teachings of the prior art (brief, page 15), because there is nothing in Furness or Flader to suggest the combination of their teachings. See In re Fritch 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). In appellants' opinion, Furness teaches positioning the mirror in the peripheral field of view, while Flader teaches an adjustable nosepiece to move the lenses out of the peripheral field of view and into the user's main field of view. We agree with the appellants. The combination of Flader and Furness could only be made using improper hindsight reconstruction.

In light of the foregoing, we will not sustain the standing rejection under 35 U.S.C. § 103 of claim 6.

Next we look to the examiner's rejection of claim 7 and claims 11, 14-16 and 20 which depend therefrom under 35 U.S.C. § 103 as being unpatentable over Furness in view of Flader. We are interpreting the recitations in claim 7, lines 7-11, "a nose piece movably mounted relative to said frame member . . . to adjust an optical path defined by the relative position[s] of the display, reflector and the user's eye" to be a nose piece movably mounted relative to said frame member . . . to adjust the position of the reflector and/or the display to change the optical path relative to the eye of the user. As set forth by the examiner, Furness does not disclose an adjustable nosepiece. Flader teaches an adjustable nosepiece (32) mounted to a frame (12) of bifocal glasses to adjust the relative position of the lower portions (28) of the lenses (26) relative to the eyes of the user to allow the user to read at or above eye level. As set forth above, the purpose

Appeal No. 1997-3823
Application No. 08/320,782

of the adjustment of the lens' position of Flader relative to the eyes of the user is not relevant to the head mounted display system disclosed by Furness. Further, Flader and Furness do not provide any motivation to combine the adjustable nosepiece of Flader and the head mounted display system of Furness, as set forth above.

In light of the foregoing, we will not sustain the standing rejection under 35 U.S.C. § 103 of claim 7 and claims 11, 14-16 and 20 which depend therefrom.

With respect to the examiner's rejection of independent claim 25 and claims 26-28 which depend therefrom under 35 U.S.C. § 103 as being unpatentable over Furness, we observe that claim 25 requires a display, a reflector and a frame for supporting the display and reflector wherein said frame includes a longitudinally extending recess disposed between an inner and outer edge of the frame member for receiving an upper edge of a frame of a pair of glasses. As can be seen best in appellants' Figure 4 and as explained on page 13 of the specification, the lens holder 16 includes a recess 112

that extends substantially the length of a front portion of the lens holder so as to be able to receive therein the upper edge of the frame of a pair of conventional glasses when the nose piece (24) is removed.

We note the examiner's position that Furness discloses ski goggles in Figures 3-4 that include a frame for mounting a display and a reflector. The examiner further notes that conventional ski goggles can be used over a pair of conventional glasses and therefor conventional goggles include a longitudinally extending recess for receiving an upper edge of the frame of conventional glasses frame. What the examiner finds lacking in Furness is the teaching of using the conventional goggles over a pair of glasses to thereby receive the glasses in the recess. While the structure of the "recess" is defined by the limitation of "for receiving an upper edge of a frame of a pair of glasses," claim 25 on appeal does not require a frame of a pair of glasses: only a recess for receiving the glasses is required. We understand the recess in the goggles of Furness to be defined by the

Appeal No. 1997-3823
Application No. 08/320,782

frame (29) and to be located between the transparency (30) and the user's face, wherein the recess is capable of receiving lenses and the entire frame of glasses worn by the user, including an upper edge of a frame of the glasses.

Accordingly we will sustain the examiner's rejection of claim 25 under 35 U.S.C. § 103. In reaching our conclusion, we have carefully reviewed the complete disclosure of Furness and we find that the subject matter set forth in claim 25 lacks novelty with regard to the head mounted display system shown in Figures 3-4 and 7-9 of Furness. Figures 3-4 and 7-9 clearly show a "recess" large enough for receiving the entirety of a frame of a pair of glasses. Given this teaching in Furness, we sustain the rejection of claim 25 under 35 U.S.C. § 103. See In re Fracalossi, 681 F.2d 792, 794, 215 USPQ 569, 571 (CCPA 1982); In re May, 574 F.2d 1082, 1089, 197 USPQ 601, 607 (CCPA 1978), In re Pearson, 494 F.2d 1399, 1402, 181 USPQ 641, 644 (CCPA 1974).

We also shall sustain the standing 35 U.S.C. § 103

Appeal No. 1997-3823
Application No. 08/320,782

rejection of dependent claims 26-28 since the appellants have not challenged the rejection of said claims with any reasonable specificity, thereby allowing these claims to stand or fall with parent claim 25 (see In re Nielson, 816 F.2d 1567, 1572, 2 USPQ2d 1525, 1528 (Fed. Cir. 1987)).

Now we look at the examiner's rejection of independent claims 29 and 33 and claims 30-32, 34 and 37-38 which depend therefrom under 35 U.S.C. § 103 as being unpatentable over Furness. Independent claims 29 and 33 require a head mounted display system including a display, a frame, and a "means for collimating light to project an enlarged image" (claim 29) or a "reflector for projecting an enlarged image" (claim 33), wherein the "means for collimating light" and the "reflector" are removably mounted on said frame independently of said display. We note the examiner's position that the mirror (120) of Furness (Figure 19) is mounted on a shaft to allow for pivoting movement and includes a set screw (130) for firmly maintaining the position of the mirror (120) after it has been adjusted to accommodate a given user, see Col. 9, lines 13-18. Appellants argue that Furness does not teach the

Appeal No. 1997-3823
Application No. 08/320,782

mirror being removable. After careful consideration of Furness, we agree with appellants that Furness does not teach removably mounting the mirror (120) to the frame. Furness only discloses that the mirror (120) is mounted on a shaft for pivotal movement and that the mirror can be secured in an adjustable position. There is nothing in Furness that would teach or suggest to one of ordinary skill in the art that the mirror (120) is, or can be, removably mounted on the frame.

In light of the foregoing, we will not sustain the standing 35 U.S.C. § 103 rejection of claims 29 and 33, and claims 30-32, 34, and 37-38 which depend therefrom.

In reviewing claims 46-51 on appeal, we consider that the claims as drafted are inaccurate and indefinite in that we have no clear direction from appellants as to exactly what structure is being claimed in independent claim 46 on appeal by the phrase "said earphone coupled to said frame through a wire." Note, the disclosed earphones (38, 39) seen in appellants' Figure 1 are mounted on the right and left temples (20, 21) and that the wire (41) appears to merely electrically

Appeal No. 1997-3823
Application No. 08/320,782

attach or connect the earphones (38, 39) to the frame (12). However, the language of claim 46 appears to specifically require that the wire actually serves to couple or mount the earphone to the frame, a situation which is at odds with appellants' disclosure.

Under the provisions of 37 CFR § 196(b), we enter the following new ground of rejection against appellants' claim 46 through 51:

Claims 46-51 are rejected under 35 U.S.C. § 112, second paragraph, for the reasons explained above, as being indefinite for failing to particularly point out and distinctly claim that which appellants regard as their invention.

Regarding the examiner's rejection of appealed claims 46-51 under 35 U.S.C. § 103, we emphasize again that for reasons stated supra as part of our new ground of rejection under 35 U.S.C.

§ 112, second paragraph, these claims contain unclear language

Appeal No. 1997-3823
Application No. 08/320,782

which renders the subject matter thereof indefinite.

Accordingly we find that it is not possible to apply the prior art relied upon by the examiner to these claims in deciding the question of obviousness under 35 U.S.C. § 103 without resorting to considerable speculation and conjecture as to the meaning of the language "said earphone coupled to said frame through a wire" in the claims. This being the case, we are constrained to reverse the examiner's rejection of claims 46 through 51 under

35 U.S.C. § 103 in light of the holding in In re Steele, 305 F.2d 859, 862-63, 134 USPQ 292, 295 (CCPA 1962). We hasten to add that this reversal of the examiner's rejection is not based on the merits of the rejection, but on technical grounds relating to the indefiniteness of the appealed claims.

We next review the examiner's rejection of independent claims 52 and 57 and claims 53-54 and 58-59 which depend therefrom under 35 U.S.C. § 103 as being unpatentable over Furness in view of Landis. Independent claims 52 and 57 require a head mounted display system comprising a display, optics for collimating light, at least one transparency, and a

frame for supporting said display, optics and said at least one transparency, wherein the at least one transparency is removably mounted on the frame and the optics are removably mounted on the at least one transparency. We note the examiner's position that the mirror or optics (120) of Furness is mounted on a shaft to allow for pivoting movement and set in place with a set screw (130) see Col. 9, lines 13-18, and therefore that the mirror or optics (120) is removably mounted. Appellants argue that Furness does not teach the mirror being removable. As we indicated above, in our treatment of independent claims 29 and 33, after careful consideration of Furness, we agree with appellants that Furness does not teach removably mounting the mirror or optics (120) to the transparency (126). Furness only discloses that the mirror (120) is mounted on a shaft for pivotal movement and that the mirror can be secured in an adjustable position. There is nothing in Furness that teaches or suggests to one of ordinary skill in the art that the mirror (120) is, or can be, removably mounted on the frame. Moreover, we note that Landis teaches a frame (16) and a removable transparency (26), but also fails to teach the removably mounted optics required by

Appeal No. 1997-3823
Application No. 08/320,782

claims 52 and 57.

In light of the foregoing, we will not sustain the standing 35 U.S.C. § 103 rejection of claims 52 and 57, and claims 53-54 and 58-59 which depend therefrom.

We now consider the examiner's rejection of independent claim 62 under 35 U.S.C. § 103 as being unpatentable over Furness in view of Landis and Flader. Independent claim 62 requires a head mounted display system comprising a display, optics for collimating light, at least one transparency, a frame for supporting said display, optics and said at least one transparency, and a removable nose piece, wherein the at least one transparency is removably mounted on the frame and the optics are removably mounted on the at least one transparency. We again note the examiner's position as set forth above that the mirror or optics (120) of Furness is removably mounted. As pointed out above, we agree with appellants that Furness does not teach removably mounting the mirror or optics (120) to the transparency (126). We also again note that while Landis teaches a frame (16) and a

Appeal No. 1997-3823
Application No. 08/320,782

removable transparency (26), it fails to teach the removably mounted optics required by claim 62. Flader teaches a removable nose piece for bifocal glasses and likewise fails to teach optics that are removably mounted on a transparency.

In light of the foregoing, we will not sustain the standing 35 U.S.C. § 103 rejection of claim 62.

In summary, the decision of the examiner to reject claims 1-7, 11, 14-16, 20, 29-34, 37, 38, 46-54, 57-59 and 62 under 35 U.S.C. § 103 is reversed. The decision of the examiner to reject claims 25-28 under 35 U.S.C. § 103 is affirmed. We have also presented new grounds of rejection pursuant to 37 CFR § 196(b) of claims 46-51 under 35 U.S.C. § 112, second paragraph.

In addition to affirming the examiner's rejection of one or more claims, this decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b). 37 CFR § 1.196(b) provides that "[a] new ground of rejection shall not be

Appeal No. 1997-3823
Application No. 08/320,782

considered final for purposes of judicial review."

Regarding any affirmed rejection, 37 CFR § 1.197(b)
provides:

(b) Appellant may file a single request for rehearing within two months from the date of the original decision. . . .

37 CFR § 1.196(b) also provides that appellants, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (37 CFR § 1.197(c)) as to the rejected claims:

(1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .

(2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

Should appellants elect to prosecute further before the Primary Examiner pursuant to 37 CFR § 1.196(b)(1), in order to preserve the right to seek review under 35 U.S.C. §§ 141 or

Appeal No. 1997-3823
Application No. 08/320,782

145 with respect to the affirmed rejection, the effective date of the affirmance is deferred until conclusion of the prosecution before the examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

If appellants elect prosecution before the examiner and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Board of Patent Appeals and Interferences for final action on the affirmed rejection, including any timely request for rehearing thereof.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART; 37 CFR § 1.196(b)

BRUCE H. STONER, JR.)
Chief Administrative Patent Judge)
)

Appeal No. 1997-3823
Application No. 08/320,782

)	
)	BOARD OF PATENT
HARRISON E. McCANDLISH)	
Senior Administrative Patent Judge)	APPEALS AND
)	
)	INTERFERENCES
)	
CHARLES E. FRANKFORT)	
Administrative Patent Judge)	

CEF:lmb

JEAN D. KUELPER
MCANDREWS, HELD & MALLOY LTD
500 WEST MADISON STREET 34TH FLOOR
CHICAGO, IL 60661